



Queensland Science Teacher

Science Teachers' Association of Queensland

Volume 41 Issue 4

An Inquiry Sequence for Interactive Simulations

David Geelan & Xinxin Fan

Sorting the Stones from the Gems

Maria Barrett & Robyn Bull

Soil in Ancient Egypt

Alisa Bryce



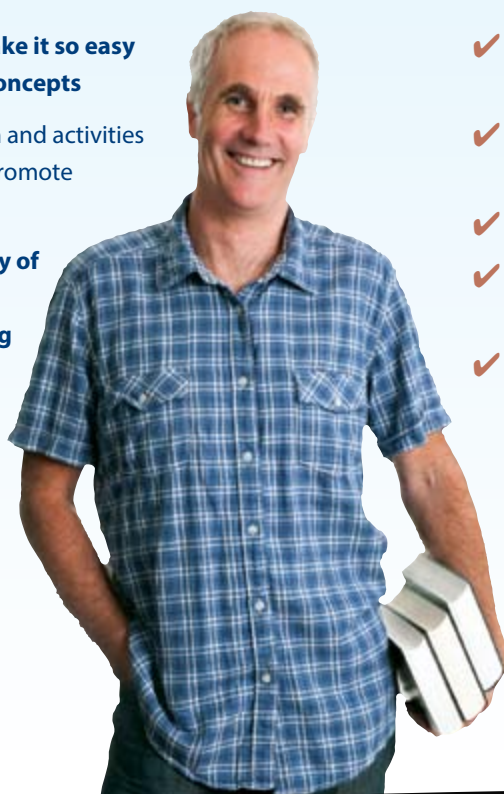


“They make my teaching easier and more exciting. My students also said how much they enjoy using the workbooks.”

*Karyn Negus, Coordinator of Biology,
St Joseph's College, Brisbane*

WHAT THE TEACHERS SAY

- ✓ **The great visuals make it so easy to explain difficult concepts**
- ✓ Data-driven approach and activities requiring modeling promote critical thinking
- ✓ **The extensive variety of activities caters for the different learning styles in my classes**
- ✓ I really love the well-thought-out support resources, they save me so much time



WHAT THE STUDENTS SAY

- ✓ **Each activity focuses on one idea, so it's really clear to me**
- ✓ The excellent diagrams make me really interested in the topics
- ✓ **It's easier and faster to learn**
- ✓ Related information is easy to find
- ✓ **Questions throughout provide me with great exam practice**



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Email: staq@staq.qld.edu.au
Phone: 0430 731 120

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Cover image: World Teachers' Day, 30 October, 2015, Story Bridge, Brisbane. Courtesy of the Queensland College of Teachers

This issue is also available as a digital download from the [Members Area of the STAQ website](#).

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President's Report

Tony Wright
STAQ President
staq@staq.qld.edu.au

It's been another successful year and still we have the Annual Senior Science Conference to come at the end of November!

The STAQ CONASTA Organising Committee is busily preparing for CONASTA 65 'Superheroes of Science – Unmask your Potential' to be held in Queensland next year at Somerville House from 3-6th July 2016. Keep a look out for expressions of interest for presenters from ASTA, our National Body.

Recently the Queensland Government announced the introduction of new senior assessment and tertiary entrance systems, commencing with students who enter Year 11 in 2018. The new system will include a new senior assessment approach, changes to school-based assessment, and a transition to the Australian Tertiary Admission Rank. The Government also announced that QCAA will be conducting trials in 2015 and 2016 to develop new senior assessment processes. These activities will include trialing external assessment with Year 11 students in 2016, trialing processes for endorsing school-based assessment prior to its use in schools, and piloting changes to current moderation processes, including additional training and support for teachers who review students' school-based assessments. There is a dedicated senior review section on the QCAA website which can be accessed from the STAQ website home page. As further information about the new systems becomes available, STAQ will keep its members informed as usual.

Other recent news from the Annual General Meeting held at UQ on the 20th October, is the retirement of some executives officers and the appointment of incoming officers.

Firstly I would like to thank Susan Burchill (CSIRO representative) - outgoing secretary and ASTA councillor - who remains as STAQ Councillor and Co-convener of the Beginning and Pre-Service Teachers Conference and thanks to Peta Jackson, immediate past president, who also remains as Councillor and CONASTA 65 Convener.

I would like to welcome to the Executive Commit-



*Tony Wright
STAQ President*

tee, Kay Lembo (Queensland STEM Education Network) and Sarah Chapman (Townsville SHS), both long time serving councillors, as Vice Presidents. I also welcome Kathy Harris (Independent Schools Qld) as Secretary and Anne Brant (STEM teacher in Residence QUT) as Registrar. Matthew Crank, an early career Physics Teacher at St Thomas More College, also joins the executive this year.

Due to the busy lives teachers lead and increased demands on time it was proposed to trial a restructure to the executive & council meetings in 2016, the executives will continue to meet on a monthly basis and those who nominated for council or to run sub-committees that organise STAQ events, do not need to attend these monthly meetings unless specifically invited to attend to report on an upcoming event or activity and then to provide feedback at a later date.

A brief overview of upcoming STAQ Events - 2016 For the last few years the major events in the STAQ calendar have included these three conferences:

- Science is Primary – Saturday, 5 March 2016
- Beginning and Pre-Service Teachers – Date TBC possibly late April.
- Senior Science – Friday 25 November 2016

These will still remain major events in the STAQ Calendar and the opportunity for professional learning and networking, as well as the above-mentioned CONASTA 65 conference.

The use of webinars as an alternative form of professional learning has proved positive this year.

The first set of webinars focused on science in the middle years and targeted Year 7. The webinar format is very flexible and has the obvious advantage over our traditional conferences and workshops in that they are delivered to the participant rather than requiring the participant's attendance. Recordings of the webinars can also be viewed at a later time.

Webinars: Beyond Science Content.

3.30pm – 5pm, Tuesday March 1st Science investigations

3.30pm – 5pm, Tuesday May 10th Science literacy

The 62nd STAQ Science Contest provided an outlet for students with an interest in science communication & investigation, engineering & technology, environment, mathematics and classified collections to receive recognition for their work and research. The recent Awards presentation

was on 31st October and was held at UQ's Abel Smith Theatre. It was hosted by Rob Bell, Channel 10 Scope presenter to a packed lecture theatre of 100 plus students and proud parents, from prep to senior secondary. It also provides a mechanism for the winning students' work to go on to the national event & the BHP Billiton Awards and the Victorian Maths Talent Competition, another good reason for teachers to encourage entries.

Lastly but not least we have to thank Jackie Merdard for organising the Science Contest and her continuing role as STAQ treasurer plus as always the support provided by the STAQ officers Angela & Gaynor.

I hope to see many of you at the Senior Science Conference in a few weeks. If not, please look out for the STAQ Calendar in the mail.



Submission guidelines

All about submitting articles and photos ...

We are always looking for interesting articles, school news and letters to include in future issues of the *Queensland Science Teacher* – lesson plans, experiment procedures, handouts, conference reflections, excursion reviews, competition results, awards received, changes in education, just to name a few! All submitted material will require proofreading and approval before inclusion in the *Queensland Science Teacher*.

Photos or graphics pasted in a word document or email are not suitable. Photos that are clear, colourful and do not exceed 2Mb are ideal. Digital photos need to be 200-300dpi. If you are unsure about how to save or send a file, please email connect@staq.qld.edu.au.

All letters, articles, news, emails and photos can be sent to connect@staq.qld.edu.au

I look forward to your interesting stories and beautiful photos!

Angela Harper
Editor

February issue
submissions are due

17 January 2016

All individual members have their own individual login and password for the members-only section of our website – where you can access great member-only resources and past issues of the *Queensland Science Teacher*. Employees of member institutions have an institution wide login and password. Refer to your most recent eNews for your member number.

Webinar: Science Investigations

3:30-5:00pm Tuesday, 1st March

One session: \$34 for members; \$50 for non-members

The online seminar will provide teachers with a model of how to facilitate student-led investigations in their classrooms and resources. By the end of the session you will have confidence to address the areas beyond content in the curriculum. The webinars will provide teachers from all over Queensland, including regional and rural areas, the opportunity to participate.



For more information visit: <http://www.staq.qld.edu.au/beyond-content/>

+
**SAVE
THE
DATE**



Science is Primary Conference 2016

Saturday, 5 March



Join Us!

For networking, teachers sharing best practice, workshops with scientists and a Q&A Panel discussing the future of Senior Science
Keynote: Dr Glen Fox, Food security in Africa & his research on grains

9th Annual Senior Science Conference

Friday, 27 November 2015
QUT Gardens Point

Presented by the
Science Teachers' Association of Queensland